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Self-Retaining Drainage Canula for Preventing Scar in Cervical Abscess.

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Presented by the author.

Reprinted from the Boston Medical and Surgical Journal of May 2, 1895.

BOSTON:
DAMRELL & UPHAM, PUBLISHERS,
283 WASHINGTON STREET.
1895.

S. J. PARKHILL & CO., PRINTERS
BOSTON

A SELF-RETAINING DRAINAGE CANULA FOR PREVENTING SCAR IN CERVICAL ABSCESS.[1]

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In the treatment of abscess of the neck, the avoidance of resultant scar is of great importance to the individual. While a scar in other parts can be disregarded, the exposure of the neck to constant inspection, and the undue prominence here of any appreciable scar, gives an additional consideration; for we have to consider not only the question of effecting a cure, but also that of leaving the least possible scar as a result.

Two years ago, the writer [2] reported three cases of large cervical abscess treated by making the cut from one-fourth to three-eighths of an inch in length. The result was a cure with a little scar in two cases, and three small round cicatrices in one case. This latter was an extensive, suppurating cervical adenitis, extending from the ear to the clavicle, on one side, in an otherwise healthy male adult. Three short cuts were made at various times, as necessary. At one period of the case the neck was full of branching sinuses, which were treated by a method which will be spoken of later. After a tedious treatment of over three months, healing finally took place, and the man now has three imperceptible scars. He has been, and is, in fine physical condition.

Since the above report I have followed out the same treatment in similar cases. The results have been good, but there has been one defect in the

[1] Shown with five cases at the meeting of the Boston Society for Medical Improvement, February 4, 1895.
[2] Boston Medical and Surgical Journal, January 12, 1893, p. 34.

method. In most cases the skin heals, but the abscess cavity does not. The cavity refills (usually with a serous fluid), and frequent reopening of the cut may be necessary before healing finally takes place. This has been a serious objection, for healing is delayed by the constant refilling of the abscess, and the patient naturally objects to a, perhaps, daily cutting.

As scar is limited to the cut through the skin, it follows that the shorter the cut the smaller the scar. Where skin unites by first intention, it not infrequently shows a slight line of cicatricial tissue; where it heals by granulation the amount of cicatrix is often large, and where, as is sometimes the case, the cicatrix hypertrophies and we have the keloidal scar, the disfigurement may be very decided.

If, in treating an abscess, a cut is made dividing the whole, or nearly the whole of the inflamed area, the contents evacuated and the cavity packed, we are doing all that can be done to bring about healing by granulation, and are doing just that which *will* leave a scar. The treatment of abscess is a question of drainage; and the reason why a long cut is effective is because it gives free drainage. If drainage is the only consideration, such treatment is unquestionable; but if the resultant scar is to be considered, it is bad treatment. When we see, as we do, necks covered with old cicatrices, some depressed, some bunched in keloid, usually of a different color from the rest of the skin and always a disfigurement to the individual, certainly any treatment which cures the condition and which prevents such a result is very much to be preferred.

Aspiration and setons are two methods which have been used with the object of avoiding scar. Having had no personal experience with either of them, I can only say, on general principles, that aspiration drains at once, but does not give subsequent drainage, and that in many cases this is essential before healing can

take place; that a seton drains partially, but that the drainage cannot be as free as is often necessary; and that both of these methods consider only one point — the scar — but do not dispose of the other, the very important question of drainage.

I have recently had Messrs. Leach & Greene of this city make a little instrument which covers both of these points satisfactorily. This is a self-retaining drainage canula and is as shown in Figures 1 and 2. It consists of two surfaces of silver, curved laterally, bent outward, and jointed at the angle. The cut through the skin being made (one-eighth of an inch), the knife is pushed into the abscess. Upon its withdrawal the canula is inserted, as in Fig. 1. When the joint is reached the external arms are closed. This reverses it. The internal arms open, dilating the tissues in the vicinity of the cut and retaining the canula within the cavity, while the external arms come together and make a tube (Fig. 2). A projection at the end of each external arm prevents it from falling into the abscess cavity, and it is fixed *in situ*. It is removed by seizing one of the external arms and withdrawing it until the hinge is reached, when, by spreading, it is again as in Fig. 1, and easily slides out.

FIG. 1.

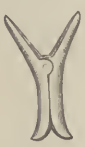

FIG. 2.

The canula can be cleaned and sterilized, and gives free, continuous, and, if necessary, permanent drainage through a skin cut of barely one-eighth of an inch. It reduces the cut to an undoubted minimum, gives surgical drainage, and leaves the least possible resultant scar.

Of the thirteen cases in the table appended, all but two were treated at the Boston Dispensary during my recent service there.

From these cases it will be seen that abscess of a single gland, and simple, non-glandular abscess healed in one week or less. (Case 8, which disappeared after

the canula was removed, undoubtedly healed in a few days, for the abscess was progressing as favorably as any of the others at the last visit.)

Abscess before evacuation.

Case 3, whose photographs showing the appearance before and after treatment are here given, had, as will be seen, a multiple glandular abscess involving the front of the neck. The whole cavity was emptied and drained through one canula, inserted at D, and healing

followed in ten days, leaving a slight inflammatory hardness, surrounding and defining the limits of the original triple-walled cavity. This slowly disap-

Same case two months later.

peared, and a second photograph taken two months later shows his present conditon. There is no scar. Knowing where the canula was inserted, I can detect, by the most careful inspection, a very minute white line ; but no one, who did not know the point of insertion,

could distinguish it from the trifling blemishes which the patient has on other parts of his face and neck.

I have encountered the greatest difficulty in the multiple glandular inflammations, where the glands are only partially broken down In the treatment of such cases there is a very important question for consideration, namely: Should these glandular masses be thoroughly excised at once, or is the surgeon justified in waiting?

The writer hopes to discuss this question in a later communication; but it is beyond the scope of the present paper to do more than refer to it, and to give the clinical history of five such cases treated upon the theory that immediate excision is not necessary. These are Cases 1, 6, 7 and 11, and the case already referred to as reported two years ago.

This latter was a case of gradual, extensive breaking down of both superficial and deep glands on one side of the neck in an otherwise healthy individual. I allowed the process to take its course, making short incisions when indicated, and effected a cure with no scarring. This man has been perfectly healthy since, and there is no reason to think that he will not continue so.

Case 1 of the above table was similar, but not so extensive. Three superficial glands and some of the deep ones were involved. The total inflamed area was about two and a half inches in diameter. As this case is illustrative of the various points to be considered, I will describe it in detail.

The patient, female, age twenty-five, married, and the mother of one healthy baby, presented herself at the Boston Dispensary, December 7, 1894, with a large inflamed glandular mass on the left side of the neck, over, in front of, and behind the sterno-cleido muscle. She had first noticed it about three weeks previously. December 14th pus was present in quantity, and a

canula was inserted at the thinnest point. It was removed December 17th, and from that time on for fourteen weeks there was the same tedious treatment that I think must be necessary in all similar cases treated by this method. The cavity closed down to a deep sinus, which discharged a small quantity of pus daily, and which showed no tendency to heal.

January 16th. Pus had formed at another point about one and a half inches distant from the first incision. I inserted a canula, and at the same time reinserted a canula in the original opening.

January 19th. Both canulas were removed. The second cavity slowly closed down to a sinus which connected with the first by a deep and tortuous tract. The connection was shown by injecting corrosive solution; when thrown into one opening, it came out of the other. The probe went in for about two inches, but could not be made to follow round through the connecting passage. The sinus ran well under the sterno-cleido mastoid.

February 7th. I treated the sinuses by the same method that I had previously used and with equal success. It consists in rapid but gradual dilatation with olive-pointed urethral bougies, curetting the sinus thoroughly, and giving injections later. I started with a No. 11 bougie and went up, one after the other, to No. 15. This went through with considerable pressure. I then introduced a small, sharp curette and scraped the lining walls on all sides. Iodoform and oil was injected.

February 9th. Tincture of iodine was injected into each sinus. This was followed by a sharp inflammation and profuse suppuration, but it had the desired effect. There was a free discharge of pus for about seven days, which then gradually diminished.

February 25th. Another abscess had formed lower down on the neck. It was superficial and healed very quickly. The canula was left in for three days.

The case showed final healing, that is to say, complete closure of sinuses, some fourteen weeks after the first canula was inserted.

April 7th. The patient reported for inspection. There were two, small, depressed, scarcely noticeable scars, which I think will be almost invisible in a few months.

Case 6 disappeared at the end of five weeks, not cured. This was a case of a small mass of partially broken-down glands, back of the sterno-cleido. At the last visit there was a deep sinus.

Case 7, a child, age one year, had both sides of the neck entirely filled with inflamed glands. I first saw her February 5th, when the glands on the left side were wholly broken down; those on the right side partially so. Two canulas were inserted on the left side and one on the right side. They were removed three days later. Healing occurred in ten days on the left side, but it was three weeks before the right side was in normal condition.

Case 11 is still under treatment. This was a mass of partly broken-down glands under the right ear. A canula was inserted February 28th, and was pulled out on the dressing, by the patient herself, the following day. It was pulled out with the inner arms open, and the cut was torn to three-eighths of an inch. There was very little subsequent suppuration, and the glands instead of showing abscess formation have been slowly disappearing. There is a sinus about one inch in depth. It may be that in this case a radical operation will be necessary later on, and that the glands will have to be cut out; but before doing this I shall give the patient at least eight weeks more. I think, however, that the adenitis will disappear spontaneously, or that further suppuration will occur, and allow of the insertion of another canula. At present, absorption is evidently going on. The swelling has diminished fully one-half in size, and the patient is in

good physical condition. The final result will be reported in any event.

Before concluding, I wish to call special attention to the following details:

(1) The knife should be narrow-bladed (not over an eighth of an inch broad), and very sharp at the point. It should be pushed through the skin, well into the abscess and an even cut made; that is to say, the internal opening should be the same size as the external. The canula should be inserted as soon as the knife is withdrawn.

(2) The abscess cavity should be emptied at once by slow, firm compression. This is said to be bad surgery. I have yet to see a bad result from it. The immediate emptying of the cavity places the walls in the best condition for rapid healing, and subsequent distention is prevented by the free drainage afforded by the canula.

(3) As a rule, I do not syringe. This is indicated in only three conditions: (*a*) Where the cavity needs sterilizing. (*b*) Where solid *débris* is present and will not come out. (Both of which are uncommon in my experience.) (*c*) Where a sluggish healing process calls for a stimulus or an irritant. This comes at a later period of the case.

For sterilizing and for washing out *débris* I use corrosive (1 to 2,000 or 1 to 4,000) or creolin (one or two per cent.). For a stimulus, iodoform and oil; and for an irritant, tincture of iodine.

(4) The dressing should be moist sterilized gauze, and in applying it, the bandage should be carried around the forehead by a number of turns, as well as around the neck. If carried around the neck alone, the dressing moves with every motion of the head, rubs over the canula and causes much irritation of the cut.

(5) In removing the dressing the very greatest care should be taken that it does not stick to the canula; for the skin is tender, and if the canula is adhering to

the gauze, it can be easily pulled out with the inner arms open, tearing the skin, and enlarging the resultant scar.

As a rule, the canula should be left in three days, but I have taken it out in twenty-four and in forty-eight hours. It may have to stay in more than three days. It is impossible to lay down an invariable rule on this point. The principle of the treatment depends upon free, continuous drainage, and the canula should be taken out when it is evident that this is no longer necessary. This decision lies wholly with the surgeon. Any one who is familiar with these cases can tell at a glance whether further drainage is needed, or whether healing ought to take place if the cavity is left to itself.

Persistent sinus should be treated as already described.

In conclusion, where the case is a multiple, partially broken-down, glandular inflammation, the patient should understand clearly at the outset that the treatment may extend over a period of many weeks, and that a radical operation may be the final outcome. But from the results which I have obtained in such cases, I think that in any similar case the patient can be assured that there is good reason to expect a favorable result, and that if this does occur the neck will not be disfigured.

In cases where full suppuration is already established, in both glandular and non-glandular abscess, the result is very satisfactory. It is remarkable to see the inflammatory process subside in a few hours under the constant drainage, and to see a, perhaps, very large abscess entirely healed in one week. It is even more satisfactory to see the same case a few weeks later and to try to find the point where the canula was inserted.

222 Marlborough Street.

No.	Diagnosis.	Location.	Canula Inserted.	Canula Removed.	Canula Reinserted	Time in Healing.	Age.	Remarks.
1	Multiple glandular abscess .	Side of neck	Dec. 14th	Dec. 17th	Jan. 16th	15 weeks	Adult	
	Ditto (same patient) .	" "	Jan. 16th	Jan. 19th	....	....		
2	Single glandular abscess . .	Side of neck	Jan. 16th	Jan. 19th	....	7 days	Child, 1 year	
3	Multiple glandular abscess .	Front of neck	Jan. 29th	Feb. 2d	....	10 days	Boy, 16 years	See cuts.
4	Non-glandular abscess . . .	Back of neck	Feb. 1st	Feb. 5th	....	7 days	Adult	
5	Single glandular abscess . .	Side of neck	Feb. 2d	Feb. 5th	....	6 days	Child, 3 years	
6	Multiple glandular abscess .	Side of neck	Feb. 4th	Feb. 11th	Feb. 14th	....	Adult	Case disappeared.
7	Multiple glandular abscess .	Both sides of neck	Feb. 5th 3 canulas	Feb. 8th	....	1 side, 10 d. 1 side, 21 d.	Child, 1 year	
8	Non-glandular abscess . . .	Back of neck	Feb. 9th	Feb. 12th	....	....	Adult	Case disappeared.
9	Single glandular abscess . .	Side of neck	Feb. 15th	Feb. 18th	....	6 days	Child, 6 mos.	
10	Non-glandular abscess . . .	Back of neck	Feb. 27th	Feb. 28th	....	14 days	Adult	
11	Multiple glandular abscess .	Under ear	Feb. 28th	Mar. 1st *	....	....	Girl, 18 years	Still under treatment.
12	Single glandular abscess . .	Side of neck	Mar. 2d	Mar. 4th	....	6 days	Child, 3 years	
13	Non-glandular abscess . . .	Back of neck	Mar. 5th	Mar. 7th	....	7 days.	Adult	

* By patient — see notes of case.